Repatriation operation in South Australia during the COVID-19 pandemic: initial planning and preparedness

Sonali Meena, Joel Chan, Tuong-Vi Phan, Samantha Butenko, Jenny Hurley, Paul McGowen, Emily Kirkpatrick, Lisa Upton, Razlyn Abdul Rahim, Matthew McConnell, Robert Hall
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Simon Petrie

Design and Production
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Contacts
CDI is produced by
Environmental Health and
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Government Department of
Health, GPO Box 9848, (MDP 6)
CANBERRA ACT 2601

Email:
cdi.editor@health.gov.au

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Repatriation operation in South Australia during the COVID-19 pandemic: initial planning and preparedness

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Abstract

With COVID-19 affecting millions of people around the globe, quarantine of international arrivals is a critical public health measure to prevent further disease transmission in local populations. This measure has also been applied in the repatriation of citizens, undertaken by several countries as an ethical obligation and legal responsibility. This article describes the process of planning and preparing for the repatriation operation in South Australia during the COVID-19 pandemic. Interagency collaboration, development of a COVID-19 testing and quarantining protocol, implementing infection prevention and control, and building a specialised health care delivery model were essential aspects of the repatriation operational planning, with a focus on maintaining dignity and wellbeing of the passengers as well as on effective prevention of COVID-19 transmission. From April 2020 to mid-February 2021, more than 14,000 international arrivals travellers have been repatriated under the South Australian repatriation operations. This paper has implications to inform ongoing repatriation efforts in Australia and overseas in a pandemic situation.

Key words: COVID-19, hotel quarantine, infection control, isolation, Medi-Hotel, operational planning, pandemic, quarantine, repatriation, South Australia

Introduction

The novel coronavirus SARS-CoV-2, which causes the disease COVID-19, continues to pose significant health threats on a global scale. Mandatory quarantine of returning international travellers is an important public health intervention to contain COVID-19. The Prime Minister announced the ‘human biosecurity emergency’ declaration under the Biosecurity Act 2015 on 18 March 2020 and mandated 14-day quarantine for all overseas arrivals in Australia.

Australia’s borders were closed to all non-citizens and non-residents from 20 March 2020, and Australians who were still overseas were urged to return via commercial means. The repatriation operation is a legal, moral, ethical obligation and responsibility of the Commonwealth government, and is undertaken at the level of the Commonwealth as well as by individual state and territory jurisdictions. The Department of Foreign Affairs and Trade and the Australian Health Protection Principal Committee support repatriation by assisting Australians overseas through the provision of consular support and commercial flight information.

In South Australia, the repatriation operations have been coordinated by the Department for Health and Wellbeing (SA Health), the hazard leader for human diseases and the agency overlooking control of disease outbreaks under the South Australian Public Health Act 2011. Directions under the Emergency Management Act 2004 also mandated all overseas arrivals in
South Australia to undertake mandatory 14-day quarantine at designated supervised facilities (i.e. hotels) from 28 March 2020.10

Successful repatriation operations are dependent on robust planning and preparedness, with a strategy to prevent COVID-19 transmission in the community. In South Australia, this began with the formulation of a clear mission to manage returning international passengers from the point of arrival to the completion of the mandatory quarantine period in designated facilities, with the dignity, wellbeing and medical care of those in quarantine needing to be considered at all stages.

This paper aims to describe the process of planning and preparing for the repatriation operation in South Australia during the COVID-19 pandemic, initiated in April 2020, with the discussion of the arrival of the first two flights carrying 721 returning travellers from the South East Asian region9 as an example of the process. This paper has implications for planning similar operations in other Australian jurisdictions as well as overseas in a pandemic situation.

The operational planning is described under the following sections:

1. Interagency collaboration;

2. Development of a COVID-19 testing and quarantining protocol;

3. Identifying the infection prevention and control principles and procedures; and


With consensus from public health experts combined with a review of existing evidence, guiding principles were formulated to serve as a benchmark guideline while planning different aspects of the operation.

1. Interagency collaboration

Guiding principles

To be successfully implemented, this operation required a coordinated approach with inputs from several support agencies.

The State Control Centre – Health (SCC-H) was established within SA Health in February 2020 and was the designated agency in control of the repatriation operation. The Chief Public Health Officer and one of the Deputy Chief Public Health Officers assumed the roles of the State Controller and Deputy State Controller respectively, ensuring that actions taken by the SCC-H were part of a coordinated response to COVID-19. With a forward commander and command team, SCC-H identified and coordinated multiple stakeholders in order to form the team for the repatriation operation, comprising representatives from emergency services, health professionals, private sector and local health networks.

Multiple structured channels were used to communicate between different agencies on a timely basis, via e-mails, phone calls, teleconferences, and regular face-to-face or online meetings, to support coordination. Table 1 shows the agencies involved and their respective roles and responsibilities in the operation.
Table 1: Roles and responsibilities of agencies involved in the management and care of repatriated Australians

<table>
<thead>
<tr>
<th>Agency</th>
<th>Roles and responsibilities of the agency in the operation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Security and coordination</strong></td>
<td></td>
</tr>
<tr>
<td>State Control Centre – Health (SCC-H)</td>
<td>• Provide strategic leadership and direction for the implementation and management of SA Health’s response to major incidents, emergencies and disasters. Coordinate any health-related operation throughout the state during a critical incident/emergency.</td>
</tr>
<tr>
<td></td>
<td>• Identify the providers and manage logistics of transport, accommodation.</td>
</tr>
<tr>
<td></td>
<td>• Provide security arrangements at hotel.</td>
</tr>
<tr>
<td>South Australian Police (SAPOL)</td>
<td>• Manage the response and recovery operations in accordance with the Emergency Management Act 2004 and the State Emergency Management Plan.</td>
</tr>
<tr>
<td></td>
<td>• Collect information from ABF on expected arrival flight time at airport, flight manifest of passengers/crew.</td>
</tr>
<tr>
<td></td>
<td>• Identify medical or disability issues.</td>
</tr>
<tr>
<td></td>
<td>• Provide logistical management of accommodation requirements for family groupings.</td>
</tr>
<tr>
<td></td>
<td>• Identify alerts on passengers/crew on the flight.</td>
</tr>
<tr>
<td></td>
<td>• Provide support to ambulance crew during transport from airport to hospital if required.</td>
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<tr>
<td></td>
<td>• Ensure (or enforce) security and compliance of quarantine at designated facilities.</td>
</tr>
<tr>
<td>Australian Defence Force (ADF)</td>
<td>• Provide support to SAPOL in coordination of passengers’ smooth transport from airport to hotel.</td>
</tr>
<tr>
<td>Australian Border Force (ABF)</td>
<td>• Provide information to passengers and crew members about mandatory quarantine on arrival.</td>
</tr>
<tr>
<td></td>
<td>• Ensure entry into Australia is adherent to Commonwealth restrictions at the time.</td>
</tr>
<tr>
<td>Airport security</td>
<td>• Provide security at airport premises and support SAPOL, ABF, and ADF during the operation.</td>
</tr>
<tr>
<td>Airport operations</td>
<td>• Inform arrival times and details of flight passengers and crew to SAPOL, ABF, and ADF.</td>
</tr>
<tr>
<td><strong>Support services</strong></td>
<td></td>
</tr>
<tr>
<td>Red Cross Telecross REDi</td>
<td>• Provide mental health support for people in quarantine: e.g. provide psychological counselling services to referred passengers.</td>
</tr>
<tr>
<td></td>
<td>• Provide children’s activity packs for families with children in hotel quarantine.</td>
</tr>
<tr>
<td>Hotel staff</td>
<td>• Ascertain accommodation needs for passengers during mandatory quarantine.</td>
</tr>
<tr>
<td>SA Housing</td>
<td>• Arrange housing needs for limited period, for individuals with financial difficulties prior to departure from quarantining state to state of residence.</td>
</tr>
<tr>
<td><strong>Case management</strong></td>
<td></td>
</tr>
<tr>
<td>Communicable Diseases Control Branch (CDCB)</td>
<td>• Provide public health management of COVID-19 positive cases and close contacts.</td>
</tr>
<tr>
<td></td>
<td>• Provide infection prevention and control advice and procedures as well as onsite at the airport support.</td>
</tr>
<tr>
<td><strong>Health care</strong></td>
<td></td>
</tr>
<tr>
<td>South Australia Ambulance Services (SAAS)</td>
<td>• Provide emergency transport from airport to hotel/hospital and from hotel to hospital as required.</td>
</tr>
<tr>
<td>Health and Medical Functional Service (H&amp;MFS): Medi-Hotel Nurses Team, border nurses</td>
<td>• Provide health screening and testing for COVID-19 of passengers at airport.</td>
</tr>
<tr>
<td></td>
<td>• Provide health screening and testing of passengers at hotel during their quarantine/isolation period.</td>
</tr>
<tr>
<td></td>
<td>• Provide triage and referral of passengers for further management for health conditions.</td>
</tr>
<tr>
<td>Team of general practitioners</td>
<td>• Provide culturally sensitive health care to passengers during quarantine period.</td>
</tr>
<tr>
<td>General practitioner liaison team</td>
<td>• Collaborate and coordinate GPs suitable for providing health care to repatriated international passengers.</td>
</tr>
<tr>
<td>Metropolitan referral unit</td>
<td>• Coordinate regular assessment of health and mental wellbeing of passengers and identify needs for referral for COVID-19 positive individuals.</td>
</tr>
</tbody>
</table>
2. Development of a COVID-19 testing and quarantining protocol

Guiding principles

- The Communicable Disease Network of Australia (CDNA) COVID-19 Series of National Guidelines (SoNG) provided the basis of current knowledge regarding:
  
  ◦ Definition of COVID-19 case and close contact;
  
  ◦ Incubation period and infectious period, which would determine period of quarantine and isolation, respectively;
  
  ◦ Appropriate release from isolation criteria.

- Testing and quarantine protocols were developed based on CDNA guidelines and on advice from public health specialists who were able to exercise clinical judgment and discretion.

- The goal was to ensure that repatriated passengers, who may be COVID-19 cases or may have been in close contact with a COVID-19 case, are isolated and quarantined appropriately.

A testing and quarantine protocol (Figure A.1 in Appendix A) was developed according to the public health principles outlined in the CDNA National Guidelines, and the clinical input was in compliance with the Directions made under the Emergency Management Act 2004.

All returned travellers were deemed to have epidemiological risk factors, having spent time in countries with high numbers of COVID-19 infections. Rigorous discussions amongst public health physicians at the Communicable Diseases Control Branch (CDCB) occurred to identify the feasible and accurate time of testing for asymptomatic travellers at initiation and completion of mandatory facility quarantine. Development of the testing and quarantining protocol was a continuous quality improvement process based on the principle of early detection; it has continued to be a dynamic process as the evidence base has built rapidly in the changing pandemic environment. Figure A.1 illustrates the initial protocol for individual passengers, depending on the outcome of clinical assessment and COVID-19 testing while in quarantine.

The strategy of testing at multiple stages was aimed at improving case-finding in returned travellers to prevent onward transmission. CDCB played a pivotal role in planning for the case management aspect of the operation. Case management included advice on timely testing criteria for travellers, disease notification for positive COVID-19 cases, and risk assessments of cases and close contacts for further quarantine or isolation. CDCB also provided guidance on release of cases and close contacts from isolation or quarantine, including arrangements for notification of negative results to travellers. Figure A.1 and Section A.1 of Appendix A explain the steps taken during planning and preparedness towards successful implementation of the protocol.
3. Infection prevention and control (IPC)

Guiding principles

- Prevention of transmission of SARS-CoV-2 via direct and indirect contact with respiratory secretions or contaminated objects, by risk-based approach including modified work practices; use of appropriate personal protective equipment (PPE) and maintenance of physical distancing; promoting and practicing hand hygiene; appropriate environmental cleaning and waste disposal; and avoidance of sharing of equipment or objects.

Based on the expertise provided by SA Health’s Infection Control Services (ICS), along with the current knowledge about the routes of transmission of COVID-19, the above principles guided the planning and were built into all aspects of the operation. PPE requirements depended on the nature of contact as described in Figures A.2 and A.3 in Appendix A, according to the matrix developed by ICS based on national and international guidelines.\textsuperscript{13}

One of the primary planning steps was the identification of all the situations and settings where IPC measures would need to be implemented, from the point of flight arrival to the commencement and completion of quarantine in the hotel rooms. It was necessary to plan for the size of the cohort arriving, the staff who would be involved at each stage of the operation, and the nature of contact that would likely be taking place. This would then determine what type of PPE would be required and in what amounts, especially as closer and/or longer contact would necessitate a higher level of PPE to be worn.

Physical environments also needed to be assessed and planned for: these included the buses designated to transport passengers from the airport to the hotel, as well as the hotel. Not only would such environments need to be cleaned correctly, with particular attention paid to areas or objects that would frequently be touched; sharing of space by service providers, e.g. nurses collecting testing samples from travellers, security services and areas in which crowding could occur also needed to be considered.

It was necessary to ensure adequate supplies of PPE, facilities and/or equipment for hand hygiene such as alcohol-based hand rub/gel and supplies for cleaning and disposal of general and medical waste. The distribution of these resources to the appropriate people and places had to occur before the flight arrival. Furthermore, staff, whether border nurses or hotel staff, needed to be educated and trained in the appropriate use of PPE, including correct donning and doffing, as well as in hand hygiene. The dissemination of information and key messages was an important aspect in the effort to ensure repatriated individuals also adhered to IPC measures (including wearing a mask for source control and hand hygiene) at each stage of their journey.

Regular site visits and inspections were planned to mitigate the risk of COVID-19 outbreaks within the quarantine facility, with reporting of any breach of IPC practice at the facilities; assessment of interactions of passengers with service providers, e.g. nurses, security guards and cleaners; and environmental assessment for potential airborne or fomite transmission.
4. Building a specialised health care delivery model

Guiding principles

- Ensuring health, wellbeing and security of returning travellers through application of a systematic method of health care delivery, with identified pathways, partnerships and systems.

During the 2020 pandemic, Medi-Hotel models (hotels designated as quarantine facilities with medical services) emerged rapidly around the world as a measure to contain the virus while catering to individual health needs. Similar models overseas have been established to support the quarantining of health care workers and vulnerable populations. For this repatriation operation, the Medi-Hotel Nursing Support Program (NSP) was developed as a collaborative multidisciplinary, inter- and intra-agency and cross-jurisdictional team model. The Chief Nurse and Midwifery Officer (CNMO) at SA Health took operational responsibility for the Medi-Hotel NSP, in partnership with the COVID-19 GP Liaison, Office of Chief Psychiatrist (OCP) and SCC-H.

The aim of the Medi-Hotel NSP was to develop systematic checkpoints to ensure all travellers under mandatory quarantine had their health, welfare and wellbeing needs assessed and managed. This included establishing a baseline general health screen on travellers’ arrival; daily phone calls during quarantine that included COVID-19 symptom checks; early identification of any deterioration of health including mental wellbeing; and social welfare and security checks alongside or following the testing protocol for COVID-19 for all passengers.

The on-site nursing assessment service provided proactive evaluation and immediate management of any clinical and/or mental health concerns related to COVID-19 or otherwise. Some challenging tasks included coordination of blood/specimen collection; daily checks on vulnerable travellers including domestic violence risks; allergy management including food and drug/medication; and departure health assessment.

Referral pathways for emergency or urgent care, including preparations for coordinating ambulance transfer and SAPOL support when required, were identified early during the planning stage in consultation with the state’s local health networks. A team of general practitioners (GP) and GP referral pathways were identified at the planning stage for non-emergency routine medical care including mental health care.

Figure A.4 shows the model; Section A.3 in Appendix A lists the functions and services of the model.

Discussion

The World Health Organization defines public health as ‘the art and science of preventing disease, prolonging life and promoting health through the organized efforts of society’. Despite the risk of repatriated citizens as potential SARS-CoV-2 carriers, there is a duty of care towards every citizen, to ensure appropriate care and support at the earliest instance while undertaking quarantine. In some settings, strict methods of monitoring home quarantine such as ankle bracelets have been used for surveillance which may be seen as infringing individual rights.

Quarantine in facilities presents many difficulties, as highlighted by the initial repatriation operation in South Australia during the COVID-19 pandemic. One significant challenge was the urgency required, with the initial planning process taking place over 48–72 hours. The first two repatriation flights had been destined for another jurisdiction, but were diverted to South Australia for operational reasons. Therefore, the different agencies to be involved in the repatriation operation also had to be swiftly coordinated, and established networks in the state’s public sector were utilized. Besides those
agencies responsible for defence and security, those focused on management of passengers’ health and wellbeing operated under the aegis of SA Health. While building on these networks can be considered a strength, the pandemic response was unprecedented. Only time and experience with managing COVID-19 cases and contacts from international arrivals could help clearly define roles as well as processes of the agencies, especially as there were no positive COVID-19 cases on the first two flights. From April 2020 to mid-February 2021, more than 14,000 international arrivals travellers have been repatriated under the (ongoing) South Australian repatriation operations.

The protocol for identifying COVID-19 cases in quarantine presented some practical challenges. Since many passengers were planning onward travel to their home states, one priority was to conduct testing and relay negative results in a timely manner so that they could be released from quarantine after 14 days. In April 2020, there was a minimum of 24 hours’ time of processing the collected swab for COVID-19 testing to release of results. This not only meant that testing could not occur too late, but also not too early if a passenger had an incubation period in the upper limit of that expected (i.e. 14 days). This was the main reason for including a test between 12 and 14 days, depending on the lab’s capacity to notify results, and including a health assessment before release from quarantine. A certificate of successful completion of quarantine was provided to all passengers on day 14 to present as an evidence to authorities in other jurisdictions, and if needed, as an evidence of completion of quarantine. In subsequent repatriation flights, post April 2020, another issue that arose, not foreseen in the initial planning and preparedness, was the management of persistently PCR-positive cases despite symptom resolution for several months since their initial exposure. This necessitated assessments of whether they were still infectious. The protocols were then subsequently revised to include additional tests such as serology, taking into account the current knowledge about SARS-CoV-2, which was and is continually evolving.

It is clear that a secure quarantine process is of utmost importance to prevent any breaches within the designated facilities. The success of this model is heavily reliant on clear instructions and high compliance. This has been demonstrated by quarantine facilities outbreaks due to mismanagement of a small number of infected persons, including breaches in IPC measures, ventilation system errors, and with emerging new variants concerning increased transmissibility.

Since the initial repatriation operation in April 2020 in South Australia, several further IPC measures have been added to reinforce the robustness of the response. These include intensive training of hotel staff in IPC procedures, and focus on Medi-Hotel structural changes such as appropriate ventilation, having dedicated zones with the highest level of PPE, having a designated floor or area or hotel for only COVID-19 cases, and legislation to support compliance with testing and PPE use, both for passengers and Medi-Hotel staff.

The aim of quarantine is to protect the local population from infectious disease transmission, but a stringent approach must be balanced against the rights and wellbeing of the individual. In the first and subsequent repatriation flights, there were individuals who were vulnerable and at very high risk of adverse health outcomes, such as unaccompanied minors, individuals living with disability, individuals with mental health conditions including psychoactive substance use, and those with complicated pregnancy. While the multidisciplinary team who comprised the specialised health care delivery model were able to provide services to such clients once they were identified, there was no a priori knowledge of passengers’ medical histories. Quarantine and isolation may also exacerbate mental health issues, and it is necessary to have Medi-Hotel staff who are trained to recognise, and respond to, such issues.

While there have been several articles describing similar operations around the world, this paper represents the first such description of the planning and preparedness for an Australian repatriation operation. The response described
here is important for understanding the complexities involved, both for staff and for individuals undergoing quarantine in a designated facility, from evolving scientific knowledge to logistics. This understanding can contribute to the sharing of information around Australia and serves to inform subsequent needs for planning of similar operations during current and future public health global emergencies requiring quarantine as a public health intervention.

Acknowledgments

The authors are sincerely thankful to our Public Health colleagues in New South Wales (Communicable Disease Control Branch, Health Protection NSW, NSW Ministry of Health; SESLHD Disaster Management Unit, South Eastern Sydney Local Health District, NSW Ministry of Health) for sharing their jurisdiction’s repatriation experiences during the planning phase of the SA operation. The team of authors is also thankful for the feedback and inputs from the Public Health team at Communicable Disease Control Branch in SA Health to improvise the draft of this article.

Ethics

As per the 5.1.22 and 5.1.23 statements from the National Statement on Ethical Conduct in Human Research, the current research work carries only negligible risk and is exempt from ethical review. Further details of the above mentioned statements can be found at: https://www.nhmrc.gov.au/about-us/publications/national-statement-ethical-conduct-human-research-2007-updated-2018

Author details

Dr Sonali Meena, Public Health Medicine Registrar

Joel Chan, Medical Intern

Dr Tuong-Vi Phan, Public Health Medicine Registrar

Samantha Butenko, Nursing Director Infection Control Service

Jenny Hurley, Chief Nurse and Midwifery Officer

Paul McGowen, Chief Commander

Dr Emily Kirkpatrick, Deputy Chief Public Health Officer, Deputy Chief Medical Officer

Lisa Upton, COVID Infection Control Coordinator

Dr Razlyn Abdul Rahim, Public Health Physician, Human Biosecurity Officer

Dr Matthew McConnell, Public Health Physician, Professional Leadership and Governance

Dr Robert Hall, COVID stream Director

1. Department of Health and Wellbeing, Government of South Australia

2. University of Adelaide

3. Communicable Disease Control Branch, Health Regulation and Protection, Department for Health and Wellbeing, Government of South Australia


5. State Control Centre, Department of Health and Wellbeing, Government of South Australia
6. Rural Support Service, Regional Local Health Networks, Government of South Australia

Corresponding author

Dr Sonali Meena
Public Health Medicine Registrar, Department of Health and Wellbeing, Government of South Australia
Telephone: (08) 83886288
Email: sonali.meena@sa.gov.au

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Appendix A

Section A.1. COVID-19 testing and quarantining planning

The following planning was done to enable timely testing of passengers and successful completion of quarantine or required isolation.

- Border nurses and infection prevention and control staff present at the airport were briefed to conduct clinical assessment of incoming passengers soon after disembarking and to swab passengers with signs or symptoms compatible for COVID-19 as shown in Figure A.1. Asymptomatic passengers were swabbed for COVID-19 at the state-designated facility, i.e. hotel, within 72 hours of arrival and at day 12 following arrival. An online screening questionnaire, to be filled out prior to landing, was subsequently introduced to speed up processes at the airport.

- Provision was made for proactively maintaining a list of names of all staff (at airport and hotel) present during the arrival, quarantine and release from designated quarantine/isolation facility of returned travellers on a daily basis. This was done to assist in contact tracing at a later stage especially if there was a breach in infection prevention and control practices by any staff member, e.g. border nurses not using appropriate PPE while performing examination of a positive case, or security staff coming in contact with positive cases while on duty without PPE.

- It was recommended that a risk assessment be undertaken for all positive cases and close contacts. The ‘isolation and CDCB contact tracing and case management pathway’ (Figure A.1) was developed and implemented by CDCB for risk assessment of each positive case and their contacts. If feasible, confirmed cases were to be isolated from other household members. Asymptomatic family members of travellers who were defined as close contacts were advised to self-quarantine, if feasible, at a designated facility for 14 days following the last contact with the infectious case. The start day of isolation was planned to be reset even if an individual decided to stay with the COVID-19-positive family member. In case of young children, pregnant females, elderly individuals, individuals with disability requiring self-care, isolation requirements were to be decided on a case-to-case basis. The decisions in such situations were aimed at minimal impact on mental wellbeing.

- Close contacts were advised to monitor for the development of any COVID-19 compatible signs and symptoms for 14 days following their last contact with a confirmed or probable COVID-19 case.

- In order to ensure a compliant quarantine for all travellers, private security was located onsite at all times at the designated facilities. The number of security personnel onsite was based on a risk assessment giving consideration to the site layout, staff rest/welfare requirements, evacuation/fire alarm procedures and the number of persons to be located at the site. Furthermore, there was on-site SAPOL presence overseeing the security arrangements of quarantine at all times.

- Hotel cards were programmed to allow a once-only entry into rooms, allowing for the identification of returned travellers who leave their rooms without authorisation.

- Consideration was given to locking/securing/alarming external exits in order to secure the site effectively. It was ensured that this must not obstruct designated emergency exits. A secure area (including temporary fencing as required) was established in close proximity to the accommodation to allow the secure containment of travellers in the event of an emergency evacuation.

\[\text{Note: The article describes initial planning and preparedness of the repatriation operation in April 2020. The processes mentioned in this article have been modified significantly since the initiation of the repatriation operation as part of the continuous review and improvement of the operation by SA Health.}\]
Figure A.1: International repatriation passenger COVID-19 testing and quarantine protocol, for the initial planning phase from April to August 2020

* Upon clinical assessment if person requires immediate clinical care – arrange transfer to Hospital. Non-COVID condition to be assessed and managed by GP. If Quarantine and isolation requirements are advised by CDCB, Isolation requirements COVID19 positive mirrors, elderly, people needing help with self care to be determined on case by case basis

** Daily Health Assessment - includes assessment of clinical symptoms and mental well being and referral, if required.

CDCB: Communicable Disease Control Branch
COVID19: Coronavirus Disease
Section A.2. Infection prevention and control planning

The following advice was provided by CDCB Infection Control Service Nursing Director during the planning stage:

During airport transfer

- Unnecessary staff members or any other people were not allowed to be present at the airport terminals during passenger arrival.
- Two surgical masks were provided for each passenger at the time of disembarkation.
- Passengers were instructed by ADF and ABF staff at airport to not use drinking fountains, vending machines or shops. These areas were also fenced off where possible. Avoidance of the use of multiple-terminal toilets and use of designated facilities only was ensured.
- Passengers were allowed off the plane in groups, of maximum 20 per group, to avoid gathering points and crowding in the airport e.g. customs and screening points etc.
- Cleaning was undertaken of airport surfaces and any equipment used by passengers e.g. wheelchairs, trolleys, as well as high touch surfaces including grab/stair handrails, walking conveyer handrails, lift buttons, toilets. Special attention to high touch points e.g. toilet cubical locks, bag hooks, taps etc.
- Buses used for transport of passengers were decontaminated after use as per environmental decontamination recommendations.
- The usual COVID-19-related decontamination of the plane was to be followed.
- All cleaning equipment was to be disposable or, if reusable (e.g. buckets, handles, cleaning trolleys), decontaminated immediately after completion of all cleaning tasks from the flight.
- Items of PPE, including masks, were to be placed in a plastic bag and disposed of as clinical waste (yellow medical waste bin).

At Medi-Hotel

- Staff and visitors were not permitted to enter any area of the Medi-Hotel if unwell with COVID-19-like symptoms as described in the CDNA SoNG.
- Signage was to be displayed at all entrances to the Medi-hotel. Consideration was given for the use of signage in different languages as required.
- Hand hygiene was to be performed on entry and exit to the quarantine hotel and defined areas with the hotel.
- Facilities for waste disposal were to be available and clearly marked.
- Guests were required to wear a face mask when transiting through the Medi-Hotel entrance lobby area and if transferring to another hotel, hospital, for medical care etc.; luggage was to be wiped over with a combined detergent / disinfectant wipe.
- External deliveries (i.e. online orders, mail, food) ordered by guests were to be left in the main foyer in a designated area. Hotel staff would then deliver to the guest wearing appropriate PPE.
- Any PPE breaches or potential exposure to COVID-19 in the course of work were to be notified to the Team Leader (nursing), or the most senior person for the work group.
- All quarantined / isolated guests were to remain in their rooms.
- Health checks were to be undertaken remotely where possible. Staff taking the specimens at the hotel would not enter the room. Passenger should present to their doorway wearing their facemasks.
- Items (e.g. toys, books, newspapers) were not to be shared between guests.
Figure A.2: Requirements of personal protective equipment for all staff and passengers involved in the repatriation operation for initial planning phase from April to August 2020

**Personal Protective Equipment (PPE) Requirements**

International Passenger Repatriation Operation in South Australia during COVID-19 Pandemic 2020

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**At Airport and during passenger's transfer**

- **Passengers**
- **All security staff and interpreters**

**At quarantine Hotel**

- **Passengers**
- **Baggage Handlers**
- **Hotel Staff (No contact-no PPE, if contact-full PPE)**

**Personal Protective Equipment (PPE)**

- **Surgical masks**
- **Gloves**
- **High Visibility Vest**
- **Long Sleeved Gown**
- **N95/P2 respirator Masks**
- **Protective Eyewear/face shield**

**During clinical encounters**

- **Border Nurses**
Figure A.3: Infection prevention and control (IPC) principles and procedures implementation during each stage of the operation for initial planning phase from April to August 2020.

INFECTION PREVENTION AND CONTROL
International Passenger Repatriation Operation in South Australia during COVID-19 Pandemic 2020

AIRPORT ARRIVAL
- Staff (security, flight crew, baggage handlers) at airport to put on appropriate PPE
- Passengers to use hand gel before getting off the flight
- and put on face mask until they reach the hotel
- Avoidance of use of airport terminal toilets and disembarking in small (n=20) control groups

TRANSFER TO HOSPITAL
- Passengers requiring hospital care to be transferred to COVID-19 units at hospital using state ambulance services with appropriate PPE

TRANSFER TO HOTEL
- Designated buses to carry passengers to hotel maintaining physical distancing with maximum 20 passengers per bus occupying every second seat

NURSES
- Nurses will require highest level of PPE
- Hand hygiene must be undertaken frequently
- Nurses to avoid contact and maintain physical distancing whenever possible

HOTEL
- Passengers to handle their own baggage
- Hotel and security staff to use appropriate PPE in high risk areas and when engaging in assisting passengers
- Passengers to maintain physical distancing at all times
- Surgical masks to be disposed of into clinical waste at hotel room

INFORMATION
- Appropriate health messages, on spread of COVID-19 infection and physical distancing measures, to be provided at multiple points of contact e.g. information sheet at arrival, poster displayed in hotel room, at the time of leaving hotel post quarantine period

DECONTAMINATION
- Cleaning, disposal and decontamination of the following: airport surfaces and any equipment used by passengers e.g. wheelchairs, trolleys; buses used for transport; plane following usual decontamination procedures for COVID-19
- All cleaning equipment should be disposable
- Items of PPE disposed as clinical waste

Quarantine complete
Section A.3. Medi-Hotel Nursing Support Program Planning

- Passengers flagged as high risk/symptomatic by a Border Nurse were triaged for referral. The onsite Nurse Team Leader (NTL) was to be alerted in case of emergency to coordinate the referral emergency. Arrangements for out-of-hours services were made in collaboration with SAPOL and COVID-19 emergency department at state tertiary hospitals i.e. Royal Adelaide Hospital (RAH), Flinders Medical Centre (FMC) and Women’s and Children Hospital (WCH). The hotel concierge was to call ‘000’ for emergency situations and was to advise the onsite SAPOL team. The onsite SAPOL team was to liaise with the SCC-H and to transfer passengers with assistance from ambulance services as required. No baggage was to be transported in ambulances.

- All passengers were to be actively monitored, by border nurses, on a daily basis for development of any COVID-19 compatible symptoms (e.g. fever or respiratory symptoms) during this quarantine period. COVID-19 testing of high-risk/symptomatic passengers was to be undertaken where practicable.

- Cases were to be encouraged to report any clinical deterioration of symptoms to their care provider as soon as possible.

- Each passenger at the hotel was to have a face-to-face health assessment undertaken by Medi-Hotel team members, utilising a health screen check list.

- The initial health assessment would identify health/mental health, safety and wellbeing needs including medications and appropriate referrals.

- All passengers were to be provided with local pharmacy contact details to obtain access for pharmaceutical supplies (both prescription and non-prescription medication). Pharmacies would collect payments over the phone. Pharmaceutical supplies ordered by guests would be left in the main foyer in a designated area. Hotel staff would then deliver to the guest wearing appropriate PPE.

- Daily phone calls for health assessment were to be managed by nurses under the Medi-Hotel NSP for passengers with no or very low clinical needs.

- Border nurses were to work in pairs, for their own personal safety, when interacting with passengers face-to-face for clinical assessment or COVID-19 swabbing.

- COVID-19 positive results to passengers would be notified by a medical practitioner from CDCB as per the South Australian Public Health Act 2011.

- Passengers with a positive COVID-19 result were to be referred to the Metropolitan Referral Unit (MRU) for continued clinical care management. The MRU would then implement daily phone calls for checking symptoms and would assess needs for support including mental wellbeing support. The MRU would consider referral to the GP team if required.

- Border nurses were to be updated on a list of positive cases and close contacts by CDCB after seeking informed consent from individuals identified as positive cases and close contacts. This would assist in better clinical care and monitoring of symptoms.

- If any passenger in quarantine were to refuse a swab, the refusal was to be noted and CDCB was to be informed for further action.

- At the time of completion of quarantine period, at day 12, another COVID-19 swab and face to face health assessment was to be done by the nurse’s team. Passengers with clinical issues would be referred utilising the referral pathways to GP.
• A copy of health records, COVID-19 results, quarantine completion certificate, mental health and wellbeing information, general information about preventing COVID-19 spread was to be provided at departure to all passengers at successful completion of quarantine.

Figure A.4. Medi-Hotel Nursing Program Model developed during planning of the repatriation operation for initial planning phase from April to August 2020.